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09/854,704	05/14/2001	Young Jun Kim	2598/OJ346	8854

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EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/854,704

Applicant(s)

KIM ET AL.

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: an inconsistency. Page 9, line 1, states "first spring 1", however, the "first spring" had been previously identified as "first spring 3".

Appropriate correction is required.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

**The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.** It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. **The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract over 150 words and contains the legal phrases "disclosed" and "comprises".

Appropriate correction is required.

***Drawings***

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: “housing B 2”, “housing b 2”, and “housing A 1”. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: LENS (figure 1) and FL (figure 2). Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Claim Objections*

6. **Claim 1** is objected to because of the following informalities: inconsistencies.

Claim 1 first states, “transferring means, provided integrally on the image sensor, for transferring the focus lens along the optical axis”, however, the claim then states, “a first transferring area defining portion for defining a transferring area of the focus lens transferred by the transferring means” and “a second transferring area defining portion for defining the transferring area of the focus lens transferred horizontally along the optical axis by the transferring means”, and lastly the claim states, “transferring movement limiting means for preventing the image sensor from transferring when the focus lens is transferred in an area defined by the first transferring area defining portion according to the operation of the transferring means.

Claim 1 is inconsistent in that the transferring means is provided for transferring the focus lens along the optical axis and the transferring movement limiting means is provided for preventing the image sensor from transferring, even though the transferring capabilities of the image sensor had never been introduced in the claim. Claim 1 is also inconsistent in that the second transferring area defining portion is defining the transferring area (previously defined by the first transferring area) of the focus lens when focus is not defined by the first transferring area, hence, completely eliminating a transferring area of the focus lens and claimed opposite of the disclosure.

For the purposes of examination, the Examiner has interpreted Claim 1 as follows (brackets and underlines indicate new interpretations): A micro mode executing apparatus for a digital still camera, the apparatus comprising: a focus lens and an image sensor arranged

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sequentially with an optical axis passing through centers of the lens and the sensor; transferring means, provided integrally on the image sensor, for transferring the focus lens and the image sensor along the optical axis; a first transferring area defining portion for defining a transferring area of the focus lens transferred by the transferring means; a second transferring area defining portion for defining the transferring area of the [focus lens] image sensor transferred horizontally along the optical axis by the transferring means, when the focus lens is not further transferred by the first transferring area defining portion; and transferring movement limiting means for preventing the image sensor from transferring when the focus lens is transferred in an area defined by the first transferring area defining portion according to the operation of the transferring means.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtake in view of Ernest et al.

9. For **Claim 1**, Ohtake discloses, as shown in figures 2 – 4 and as stated in columns 2 (lines 25 – 34 and 54 – 59), 3 (lines 5 – 25 and 54 – 63), 4 (lines 52 – 59), and 5 (lines 9 – 49), a micro mode executing apparatus for a digital still camera, the apparatus comprising: a focus lens

(imaging lens section figure 2 – 32 / figure 4 – 62) and an image sensor (34) arranged sequentially with an optical axis passing through centers of the lens and the sensor (see figures 2 and 4); transferring means (drive motors 48 and 68) for transferring the focus lens (see figure 4) and the image sensor along the optical axis (along  $X \leftrightarrow Y$ ); a first transferring area defining portion for defining a transferring area of the focus lens (62) transferred by the transferring means (P1, P2 and P3); a second transferring area defining portion for defining the transferring area of the [focus lens] image sensor transferred horizontally along the optical axis by the transferring means, when the focus lens is not further transferred by the first transferring area defining portion (see explanation below); and transferring movement limiting means for preventing the image sensor from transferring when the focus lens is transferred in an area defined by the first transferring area defining portion according to the operation of the transferring means (control unit 43).

As stated in column 5 (lines 9 – 49), the image sensor is transferred along the optical axis to an in focus position, according to the data table shown in figure 3. The image sensor is transferred in response to the transferring of the focusing lens along the optical axis. Together, the focusing lens and the image sensor produce an in-focus image. The transferring of the image sensor is dependent upon the transferred position (as detected by the position sensor 69) of the focusing lens, thus, the second transferring area for defining the transferring area of the image sensor is defined when the focus lens is not further transferred and the image sensor is prevented from transferring when the focus lens is transferred

However, Ohtake does not disclose wherein the transferring means is provided integrally on the image sensor. On the other hand, Ernest et al. also disclose a transferring in a digital

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camera. More specifically, Ernest et al. disclose as shown in figures 4 and 5, transferring means (motor 40 and gears 68 and 70) provided integrally on the image sensor (20). As stated in column 1 (lines 35- 38), at the time the invention was made, one with ordinary skill in the art would have been motivated to include transferring means provided integrally on the image sensor, as taught by Ernest et al., in the digital camera, disclosed by Ohtake, as a means to provide a digital camera that works well with statically mounted lenses while optimizing image focus. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have included transferring means provided integrally on the image sensor, as taught by Ernest et al., in the digital camera, disclosed by Ohtake.

***Allowable Subject Matter***

10. **Claim 2** is allowed.

The following is a statement of reasons for the indication of allowable subject matter: While the closest prior art (see the cited prior art of form PTO-892) discloses an image sensor and a focusing lens transferred along an optical axis, the prior art does not teach or fairly suggest a motor transferred along a rotating axis of a spindle with a rotating direction of the motor being changed in line with an applied electrical signal with reference to the rotating axis of the spindle; an image sensor, mounted integrally onto one side of the motor through a fixing member, for converting an image of an object to be photographed to an electrical signal; and a focus lens positioned on a same optical axis as the image sensor and secured to one end of the rotating axis of the spindle.



***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following is a brief description of the cited prior art as identified on form PTO-892:


- **Prior Art C** discloses, in the very least, transferring means for transferring an image sensor and a focus lens along an optical axis wherein when the focus lens is fixed, the transferring means transfers only the image sensor to adjust the focus.
- **Prior Art D** discloses, in the very least, transferring means for transferring a focus lens along an optical axis wherein the transferring is biased by a spring and a stepped region of the lens barrel housing.
- **Prior Art E** discloses, in the very least, a lens barrel comprising an image sensor and a series of zooming and focusing lens wherein the image sensor is provided integrally with transferring means for transferring the zooming and the focusing lenses.
- **Prior Art F** discloses, in the very least, automatic focusing control for a digital camera wherein an image sensor and a relay lens group are fixedly united by means of transferring means so as to maintain a fixed distance between the image sensor and the relay lens group when the image sensor is transferred to adjust the focus.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
July 20, 2004



TUAN HO  
PRIMARY EXAMINER